STRATEGY RESEARCH PROJECT

THE ROLE OF INTELLIGENCE ANALYSIS IN THE WAR ON TERRORISM

BY

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The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

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ABSTRACT

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The United States government must provide the intelligence community's analytical force with the necessary resources and capabilities in order to use intelligence analysis as an effective weapon in the War on Terrorism. Reviewing the studies and programs in place to improve analysis demonstrates acknowledgement of a shortfall in the analytical field and the need for improvement. The Director of Central Intelligence's Strategic Investment Plan for Intelligence Community Analysis provided outstanding guidance for the analytic community, but from its inception was resource-constrained. The community recognizes a need to adopt new recruitment, hiring and staffing processes and more flexible personnel management policies to attract and retain the right work force. Some of the intelligence community's successful analytical training efforts include the Central Intelligence Agency's Sherman Kent School for Intelligence Analysis, programs at the Defense Intelligence Agency's Joint Military Intelligence College, and Red Team Training. Equipping analysts with the right tools includes maximizing information sharing, collaborating with the scientific field, and investing in research and development of analytical tools. To be successful analyzing one of the most difficult targets, the intelligence community understands it needs the right people, training, and tools, all of which can best be accomplished with significant increases in resources.

TABLE OF CONTENTS

PREFACE

This work is dedicated to the Naval intelligence professionals who lost their lives in the terrorist attack on the Pentagon September 11, 2001, while working in the Chief of Naval Operations Intelligence Plot. Commander Dan Shanower, USN; Lieutenant Commander Vince Tolbert, USN; Ms. Angela Houtz; Mr. Jerry Moran; Lieutenant Jonas Panik, USN; Lieutenant Darin Powell, USN; Information Technology Specialist First Class (Surface Warfare) Julian Cooper, USNR; and Mr. Brady Howell—thank you for so bravely standing the watch.

LIST OF ILLUSTRATIONS

x

THE ROLE OF INTELLIGENCE ANALYSIS IN THE WAR ON TERRORISM

To kill Americans and their allies, both civil and military, is an individual duty of every Muslim who is able, in any country where this is possible

—Osama Bin Laden[1]

The United States is at war with terrorism. The United States government must provide the intelligence community's analytical force with the necessary resources and capabilities in order to use intelligence analysis as an effective weapon in the War on Terrorism. Observers in and outside the intelligence community have recognized this and laid the groundwork for sound solutions to improve intelligence analysis in this and other areas. Many good ideas have surfaced regarding basic manning, training, and equipping the analytical force. Good intelligence analysis—adding context and meaning to the volumes of raw intelligence and information—will be critical to combating the terrorism problem. Reviewing the studies and programs in place to improve analysis demonstrates acknowledgement of the shortfall in resources and capabilities in the analytical field and the need for improvement. A logical next step is to adequately resource and enforce the plans to improve analysis—or to pay another price akin to the tragedies of September 11th.

Following each major terrorist act affecting U.S. citizens, the need for good terrorism analysis becomes painfully apparent. Immediately the intelligence community is cited for failure. However, looking at the Congressional testimony of the Director of Central Intelligence and the Director, Defense Intelligence Agency (DIA) in the spring of 2001, it is obvious that these two leaders, and the organizations they lead, provided predictive analysis that a terrorist incident on the scale of September 11th would occur. [2] In fact, VADM Thomas Wilson, USN, Director, DIA, testified that a terrorist incident of this caliber was his number one concern in global threats (Figure 1).

Key Near Term Concerns

　　　　While specific threats are impossible to predict, and new threats and challenges can arise almost without warning in today's environment, over the next 12-24 months, I am most concerned about the following potential situations.

A major terrorist attack against United States interests, either here or abroad, perhaps with a weapon designed to produce mass casualties. Terrorism remains the 'asymmetric approach of choice' and many terrorist groups have both the capability and desire to harm us. Terrorism is the most likely direct threat to US interests worldwide. I will discuss the terrorist threat in more detail a little later on.

　　　　...Terrorism remains the most significant asymmetric threat to our interests at home and abroad. This threat will grow as disgruntled groups and individuals focus on America as the source of their troubles. Most anti-US terrorism will be regional and based on perceived racial, ethnic or religious grievances. Terrorism will tend to occur in urban centers, often capitals. Our overseas military presence and our military's status as a symbol of US power, interests, and influence can make it a target. However, in many cases, increased security at US military and diplomatic facilities will drive terrorists to attack 'softer' targets such as private citizens or commercial interests. The characteristics of the most effective terrorist organizations -- highly compartmented operations planning, good cover and security, extreme suspicion of outsiders, and ruthlessness -- make them very difficult intelligence targets. Middle East-based terrorist groups will remain the most important threat, but our citizens, facilities, and interests will be targeted worldwide. State sponsors (primarily Iran) and individuals with the financial means (such as Usama bin Ladin) will continue to provide much of the economic and technological support needed by terrorists. A move toward 'higher-casualty attacks' is predictable as globalization provides terrorists access to more destructive conventional weapons technologies and WMD.

FIGURE 1 – TESTIMONY OF VICE ADMIRAL THOMAS WILSON, U.S. NAVY, DIRECTOR, DEFENSE INTELLIGENCE AGENCY TO THE SENATE ARMED SERVICES COMMITTEE AND THE SENATE SELECT COMMITTEE ON INTELLIGENCE MARCH 8, 2001

　　　　Critics need to understand that analyzing the terrorism problem offers radically different challenges as compared to traditional state-focused analysis. Terrorist activities are not easily followed using traditional indicators such as in military force on force scenarios. Human

intelligence sources are rare and frequently unreliable. Imagery does little to help analysts lead to conclusions regarding an upcoming event. For instance, the noted absence of activity at a suspected terrorist training camp through imagery does little to help an analyst determine where the next strike may be. And while some information is available via communications intercepts, there are difficulties in the sheer volume, linguistic capabilities, possible deceptive techniques, and good enemy operational security to name a few.

Good intelligence and analysis are a first line of defense, but the complexity and dynamic nature of the terrorist target must be understood. The target includes a group of people that feverishly try to hide their operations. The most difficult groups operate in closely-knit cells that are extremely difficult to penetrate. And even when an asset becomes available, the survival time for reliable informants is not long.[3] According to the Deputy Chief of the Director of Central Intelligence (DCI) Counter-Terrorism Center:

> Throughout terrorism's history—and to a very large degree this is still true today—terrorism has been a diverse phenomenon, involving a wide variety of perpetrators, ideologies, and objectives. There is no single terrorist profile that will enable us to comprehend what makes terrorists tick, no single type of goal that terrorists pursue, and no single type of conflict that, if resolved, would cause the phenomenon to waste away....The individuals involved are certainly diverse. They include the hapless youth who is recruited for a suicide mission, and the cunning organizer who recruits him. They include imams and illiterates, sheiks and soldiers.[4]

And in a further description of the difficulty of the terrorist target, according to a senior analyst at the DCI CTC:

> ...there is the central, basic fact that terrorism is a highly secretive activity, involving plots hatched in small groups that are very suspicious of outsiders and ruthless toward anyone suspected of betraying them. This makes terrorism an extremely difficult target. In particular, it makes it hard to get the kind of highly specific information, including time, date, and place of planned attacks, that would be most useful in preventing terrorist operations. That is the kind of information that is usually known only to a small number of plotters, and it is the kind that we are only rarely able to obtain.[5]

Analysts cannot benefit from the same familiarization with their target that traditional regional analysts can. Most regional analysts can gain familiarity with their regions by spending time there, but it is highly unusual for a terrorism analyst to have spent time with terrorists. And predicting what some antithetical groups may do, worldwide, with any type of weapon, is among the most difficult tasks facing the civilized world today. Or, as stated in Secretary of Defense Donald Rumsfeld's rules: "Never assume the other guy will never do something you would never do."[6]

Various commissions, agencies, and leaders stated the need for increased attention to the terrorism problem before the September 11th attacks. The U.S. Commission on National Security/21st Century said: "The Director of Central Intelligence should emphasize the recruitment of human intelligence sources on terrorism as one of the intelligence community's highest priorities, and ensure that operational guidelines are balanced between security needs and respect for American values and principles."[7] Another example from the same study does not specify terrorism, but does call for an increase in the National Foreign Intelligence Program (NFIP) budget: "The intelligence community should place new emphasis on collection and analysis of economic and science/technology security concerns, and incorporate more open source intelligence into analytical products. Congress should support this new emphasis by increasing significantly the National Foreign Intelligence Program (NFIP) budget for collection and analysis."[8] As an indicator of the importance the Commission placed on intelligence, nine of the Commission's major recommendations specifically addressed intelligence. And the study was conducted completely outside the intelligence community.

Since September 11th, the Central Intelligence Agency (CIA) doubled the size of the Counter Terrorism Center (CTC). Besides additional CIA analysts and operations officers, a group of additional Federal Bureau of Investigation (FBI), Department of Defense (DoD) and Special Forces personnel joined the ranks. The influx of military personnel, particularly Special Forces officers, demonstrates the importance of the role of intelligence in the war on terrorism.[9]

While the role of intelligence in terrorism analysis is clearly understood in predicting threats, the ancillary role in supporting law enforcement is often overlooked. Intelligence analysis is used to help determine responsibility for terrorist attacks already committed. The critics don't provide credit for these successes. For example, the intelligence community pulled together enough evidence within two weeks of the East African embassy bombings to pinpoint Osama Bin Laden's operatives as the culprits. Intelligence analysis also assisted in the successful location, tracking and capturing of over 50 terrorists (prior to September 11th). One of the frustrations the intelligence community deals with is the inability to share all successes. This is particularly true when discussing thwarted terrorist plots.[10] Occasionally some of these successful operations, such as the plot in Seattle surrounding the millennium celebrations, make the news—but far more do not. It is satisfying to the analysts to be correct in warning. However, it is human nature to be somewhat frustrated when continuously attacked by those in the media, government, and the public, who are unaware of how many successful attacks have been stopped by good analysis.

THE FIRST SOLUTION: ADDITIONAL RESOURCES

The Director of Central Intelligence's Strategic Investment Plan for Intelligence Community Analysis (SIP), states:

> Over the next decade, the challenges that confront the Intelligence Community (IC) analysis will continue to outpace the resources available to meet them....Investment in analysis has declined as a portion of the National Foreign Intelligence Program (NFIP) since 1990, and its share of the NFIP budget is projected to decline further by FY 2005....The effect of inflation on analysis spending is magnified by rising personnel costs, which are increasing faster than inflation. As a result, even though the number of analysts has declined dramatically since 1990 and will increase only modestly through FY 2007, the cost of paying their salaries is increasing steadily.[11]

The SIP, published in 2000, provides outstanding guidance for the future of the analytic community. The SIP outlines the goals and future requirements for the 11 agencies of the National Intelligence Production Board and the actions required to build and maintain the intelligence community's core analytic capabilities. The extremely important work in this plan, however, has been barely implemented due to insufficient resources to effectively implement the plan. The authors understood that resources would have to come from outside the analytic community, on top of the offsets that would need to be identified from within, to try and realize the plan's ambitions.[12] The fact is, while the intelligence community is often criticized for intelligence failures resulting from a lack of predictive analysis, the community recognized some shortcomings in analysis and was attempting to address what it could in a resource-constrained environment.

Intelligence analytical efforts to thwart terrorism are an essential element of any successful counterterrorism program. Without an effective intelligence arm to provide insights, thoughts, and predictions of terrorist activity, an effective offense or defense is difficult to develop. However, the U.S. intelligence community is fighting this battle with fewer analytical resources than ever in recent history. Beginning in the 1970's, intelligence capabilities started on a downhill slope, paying from problems of the past such as domestic intelligence abuses, alleged impropriety in intelligence activities in Chile, and failed attempts to assassinate Fidel Castro. By 1980, the community had lost 25 percent of its people, less than half the CIA's regional analysts spoke the language of their region, and very few had in-country expertise of their regions. Intelligence budgets did increase slightly each year from 1980 through 1989, but then fell again annually through 2001.[13] The final outcome was very little growth in actual dollars for a 20-year period in the intelligence community. Satellite intelligence outpaced human intelligence and the analytical efforts at the time.[14] Technical means have continued to

5

dominate the largest portions of the annual intelligence budget to this day. The National Security Agency (NSA), which already receives the largest share of the intelligence dollars according to open sources, will continue in the near future to receive a far larger portion of the intelligence budget than the analytical side to "revitalize" its structure.[15]

Technology does not come cheap, and although intelligence spending is officially classified, most press reports quote a figure of between $28-30 billion per year. About half of that is budgeted to the NFIP, most of which is earmarked for technical systems for collecting and processing intelligence. Most of the spending is in the technical arena. The tactical portion of the service intelligence budgets, Tactical Intelligence and Related Activities (TIARA) receives about $10-12 billion annually. The National Reconnaissance Office (NRO), responsible for imagery and signals satellites, spends about $6.2 billion annually and employs over 1000 people, and many more contractors. The NSA, responsible for signals intelligence, spends approximately $3.7 billion and has about 38,000 employees. The CIA and Joint Military Intelligence Program, which includes the Defense Intelligence Agency and the non-TIARA service intelligence budgets, conduct a great deal of the actual intelligence analysis. The CIA and Joint Military Intelligence Program combined only spend $5.1 billion and employ 36,000 (17,000 are CIA).[16] This combined picture shows that almost two-thirds of the U.S. spending on intelligence budgets is in the technological agencies, the NRO and the NSA. Money is with technology, not analysis.

In the mid 1990's, many Americans believed that the costs of intelligence should decrease following the Cold War, according to the "Report of the Commission on the Roles and Capabilities of the United States Intelligence Community," also known as "The Brown Commission." Congress asked the Commission to determine "whether the existing levels of resources allocated for intelligence collection and intelligence analysis are seriously at variance with United States needs...."[17] The Commission knew that funding was likely to continue to decrease, and tried to determine how cuts could be made without reducing capability. Among the Commission's key findings on the intelligence community were the following:

- The 21 percent reduction in resources since 1989 still allowed intelligence agencies to continue their basic activities.
- Personnel reductions from 1991 to 2001 would be approximately 24 percent.
- It would be extremely difficult to use substantive criteria to determine the correct level for intelligence spending—it would have to be the nation's call.

- Intelligence resources could probably be reduced without damaging national security if better business practices were adopted, better budget analysis conducted among agencies, and unnecessary requirements dropped.[18]

In 1996, the only report of its kind on the street, essentially said the intelligence community could do more with less, if better organized. It was not a ringing endorsement for additional dollars for any part of the intelligence community, including analysis.

The "Report of the National Commission on Terrorism", or the "Bremer Commission" took a later, alternative view. This commission said that if the United States was to protect itself and remain a world leader, it must develop and refine counterterrorism policies, including those involving resourcing. Recommendations included higher priority for funding for counterterrorism efforts by the CIA, NSA, and FBI, to continue operational activity and improve collection and exploitation of terrorist communications; improving executive and legislative branch review of counterterrorism activities; and streamlining Congressional counterterrorism budget review. At the time of the report's drafting, counterterrorism programs existed in the individual budgets of 45 departments and agencies of the U.S. federal government. And although the President's National Coordinator for Security, Infrastructure, and Counterterrorism had a role in setting priorities and reviewing funding in the agency budgets, the Office of Management and Budget (OMB) had the ultimate decision of what agency programs would be funded. The commission felt that the Director of OMB and the National Coordinator should both be involved in providing the final budget, and appeals, to the President for better execution of his counterterrrorism program.

Regarding Congressional review, the report highlighted that responsibility for reviewing the President's budget was divided among 12 Congressional committees, and even more subcommittees. Coordinating review among these different bodies with differing priorities and strategies was cumbersome and counterproductive. The commission recommended Congress develop a mechanism for reviewing the President's budget as a whole, and the Appropriations Committees direct full-committee staff to conduct a cross-subcommittee review of counterterrorism budgets.[19] The Bremer Commission reported that counterterrorism resource and budget management could be improved, but did not say that the current and past resourcing levels were adequate.

The executive and legislative branches seem to point fingers at each other for where the true problems in funding for intelligence analysis lie. Intelligence budgets submitted to Congress are significantly "marked" by Congressional staff and then do not reflect what the original planners, programmers, and budgeters had envisioned. The agencies then claim that it

is difficult to effectively execute their programs since the intentions they submitted are not the same as those that are funded. Members of the legislative branch, on the other hand, state that the agencies do not listen to the guidance and priorities that the intelligence oversight committees have provided them repeatedly. Therefore, it is up to those committees to ensure the budgets truly reflect what the elected representatives of the people want, not what the agencies feel is appropriate.[20] Agencies have known they needed improved analysis, but also known that over the years technology has yielded more funding than analysis following Congressional budget oversight.

As an example, the House Permanent Select Committee on Intelligence noted in the press that the intelligence portion of the defense budget request declined in fiscal year 2002 despite repeated discussions of the importance of intelligence.[21] In other words, it was DoD's fault that the intelligence budget was inadequate; DoD decided to fund areas other than intelligence. In the end, the 2002 intelligence bill increased spending by 8 percent overall with an emphasis on human intelligence and analysis. However, at an estimated annual 3.5-5 percent inflation, a 3-4.5 percent increase across the intelligence community—not just analysis—is not adequate to address the shortfalls identified in the myriad reports on the state of the analytical community at large.[22]

Things are looking better than in the recent past. Senate Intelligence Committee Chairman Bob Graham (D-FL) hailed the 2002 intelligence authorization bill "the first installment of a multiyear effort to correct serious deficiencies that have developed over the past decade in the intelligence community."[23] This is at least recognition by those who have oversight for the funding of the community that the problems exist. And now, the proposed 2003 CIA budget contains an increase between $1.5 and $2 billion annually, a significant increase. The previous CIA annual budget was estimated at about $3.5 billion.[24] It is unknown how much of that figure will be dedicated to the analytical portion of the budget, but the increase is at least better hope for assistance in an area of concern.

One way to look at the resource issue is in a U.S. military framework. If the intelligence community were viewed as the equivalent of a "service," such as the Army, Navy, Air Force or Marine Corps, the intelligence community would have the responsibility to man, train, and equip its force by law under U.S. Code, Title 10. The intelligence community understands these responsibilities and demonstrates significant efforts to improve in these areas, despite a resource-constrained environment.

MANNING: THE ANALYST

The intelligence community needs good analysts to attack the terrorism problem. The community must build and maintain subject matter experts who have continuity, depth, and credibility. An example of the qualities sought in hiring analysts include the following:

-Intelligence-related experience, or a bachelor's degree from an accredited college or university in an appropriate job-related field, such as political science, regional studies, international affairs (foreign language skill in conjunction with these majors is highly desired) geography, economics, engineering, or physical or life sciences.

-Research skills to collect and evaluate research data; to absorb and synthesize large amounts of information; to draw logical, interpretive conclusions; and to present those conclusions in a variety of formats and forums.

-Ability to convey ideas fully and accurately through discussions, briefings, and similar presentations.

-Personal attributes that include motivation, professional ethics, effective interpersonal skills, the potential for professional growth, and the ability to perform under pressure.[25]

The Joint Military Intelligence College published Intelligence Essentials for Everyone, which included a chapter "Portrait of an Intelligence Analyst."[26] The author uses several government studies to present the ideal characteristics of the intelligence analyst. The desired cognitive attributes include written expression, reading comprehension, inductive reasoning, pattern recognition, oral comprehension, and information ordering. Experienced supervisors judged reading comprehension, pattern recognition and deductive reasoning to be the most important abilities. Research also demonstrated the following personality traits most often seen in intelligence analysts: "orientation to the inner world of ideas rather than the outer world of things and people, tendency to gather factual information through senses rather than inspiration, proclivity to make decisions on the basis of logic rather than emotion, and an eagerness to seek closure proactively instead of leaving possibilities open."[27] While the above attributes and traits are not prescriptive or inclusive of intelligence analysts, they present one set of guidelines for supervisors or placement officers to help determine who among their work force may perform well in an analytical position.

Another opinion on qualities desirable in intelligence analysts comes from outside the intelligence community. George Friedman, president of STRATFOR, a private, for-profit intelligence think tank recruits analysts for their "ingenuity, moxie, and intellectual unconventionality rather than academic credentials"[28] Friedman stated, "We want zero-based

thinking and Zen detachment from our people. That means parking faddish academic beliefs and ideological preconceptions at the door."[29] Terrorism analysts must be able to think out of the box and think the unthinkable. This ability is not innate for most people, and the intelligence community should focus efforts on looking for individuals who have succeeded in predictive analysis and bring them in to the terrorism analysis fold.

Besides meeting the challenge of finding good analysts, the intelligence community needs to have the best managers of analysis. Included in this management should be support for research to better understand the thought processes involved in making analytical judgments. Management needs to understand the thinking skills involved in analysis and how to test job applicants for these skills and train analysts to improve them. [30] According to Richards Heuer's Psychology of Intelligence Analysis, the intelligence community should hire experts on the thought process to continually improve intelligence, analytical products, and analysts themselves:

Scholars selected for tours of duty in the Intelligence Community should include cognitive psychologists or other scholars of various backgrounds who are interested in studying the thinking processes of intelligence analysts. There should also be post-doctoral fellowships for promising scholars who could be encouraged to make a career of research in this field. Over time, this would contribute to building a better base of knowledge about how analysts do and/or should make analytical judgments and what tools or techniques can help them.[31]

In essence, the community would be well-served by hiring people who think about thinking. These individuals could exponentially assist in the analytical effort by helping good analysts become better, and by helping identify which individuals within the community may be best suited for analytical work in the terrorism field.

THE SEARCH FOR EXPERIENCE

Former CIA inspector general Frederick Hitz recommends that to gather and analyze intelligence on the new enemy the community will need to go beyond books and "reach into the bazaars and the mosques of Pakistan and Palestine. And the only way to do that is to recruit the best people available, both from the great universities and from the streets of America's ethnic enclaves." He recommends a "crash" program to recruit and train employees in the hard languages: "As difficult as it may be to recruit an informant in a terrorist cell of individuals willing to expend their lives in suicide missions, it's impossible if you don't speak or read the language and understand the culture from which they come." Hitz also suggests recruiting from the

American Islamic community now, as it will take years to build up the necessary expertise in both the operations directorate and analytical corps.[32]

The House Permanent Select Committee on Intelligence also cites the lack of language skills and area expertise as a notable challenge to adequately addressing the terrorism analysis problem. "At the NSA and CIA, thousands of pieces of data are never analyzed, or are analyzed 'after the fact' because there are too few analysts; even fewer with the necessary language skills. Written materials can sit for months and sometimes years before a linguist with proper security clearances and skills can begin a translation."[33] The committee suggested bonuses for employees fluent in target languages, particularly those of state sponsors, and that the community consider creating its own language school.[34]

IMPROVING RECRUITING AND RETENTION

The U.S. Commission on National Security/21st Century made a recommendation to improve Civil Service hiring, which, if implemented, would greatly assist certain civilian professionals in the intelligence community. The recommendation reads: "The President should order the elimination of recruitment hurdles for the Civil Service, ensure a faster and easier hiring process, and see to it that strengthened professional education and retention programs are worthy of full funding by Congress."[35] At this time, the intelligence community loses many potentially valuable analysts due to the arcane hiring procedures, lengthy application-to-interview periods, and lengthy post-interview periods. Once hired, many civilian analysts also leave, hired away by industry which offers more competitive financial, educational and retirement programs. In the current "war for people," changes must be made to draft the best officers.

The Strategic Investment Plan recognizes work force problems and states:

> Depending on the analytic organization and the occupational discipline, there is a work force 'graying' (i.e. aging) and 'greening' (i.e., an influx of very young people) problem in the Intelligence Community. Some agencies have done little or no hiring over the past decade because of downsizing, the need to invest in research and development and technical systems, or an inability to acquire recruits with the desired skills. Senior personnel are retiring without being replaced with analysts having comparable knowledge, and some remaining veteran analysts possess skills that are outdated and less important in today's world.[36]

To address some of the recruitment and retention issues, the SIP notes that the community must adopt new recruitment, hiring, and staffing processes and more flexible personnel management policies. As an example, all intelligence analysts should not be hired at

the entry level. The SIP recommends establishing market-driven pay categories to recruit analysts in highly competitive skill areas. Other recommendations include increasing senior-and executive level hiring; expanding the use of time-limited appointments; expanding a tiered work force (mix of long-term careerists and short-term employees); and adding more annuitants, contractors and consultants. The SIP also saw rotational assignments as "one of the most important and rewarding components of career development."[37] It recommends providing analysts meaningful rotational assignments, including those with academia, industry, government laboratories, and other federal agencies to build and sustain expertise and improve retention. Along with this will need to be a change in the current personnel system to reward those who take those rotational assignments. Complaints from various agency's employees within the intelligence community is that service away from their agency is viewed as "out of sight, out of mind," and upon returning to their parent agencies many have not been placed in challenging positions using their expertise gained from rotational assignments.

In a plan to grow and retain greater analytical expertise, the CIA's Directorate of Intelligence created a new career track to keep seasoned analysts from leaving analytical work for management. The Senior Analytic Service was created in March 2000, and analysts at the GS-13, 14, and 15 levels applied. The positions allowed additional pay, more professional "freedom," and greater promotion opportunities.[38] This track also encourages analysts to continue working in their fields longer, retaining their seasoned experience and expertise. The intelligence community should ensure this initiative is adopted community-wide, not just at the CIA, to improve the overall cadre of intelligence analysts across subject areas.

The SIP acknowledges the importance of managing the human skill mix. It states that the intelligence community must develop empirical methods of determining current and future analytic resource requirements, determine the appropriate balance between in-house analysts and external experts, and adopt better processes for gathering data on intelligence community analytical skills and expertise. A "skills management track" should accomplish the above.[39] The skills management track could determine future manpower levels and assist managers in allocating current resources to best meet surge situations. The plan calls for establishing a community-wide analytic skills database to track and map expertise and performing a community-wide needs assessment to determine appropriate end strength. Part of the effort would also identify areas that could employ various types of external expertise, such as academics, industry partners, and an intelligence community reserve constituted of individuals who can be used to augment the analytic cadre during both normal and crisis operations.[40]

The SIP provides outstanding guidance for improving personnel aspects of the analytic community. The community would benefit by implementing its long term, or in other words, "strategic" plans, if it hopes to meet tomorrow's analytic challenges with the right work force. Following is the SIP's stated goal for investing in people: "To build and maintain a diverse work force that is second to none in its analytic discipline, regional and technical expertise, collection mastery, intellectual rigor, communications skills and knowledge of consumers needs."[41] Training helps meet one of the plan's top objectives: investment in skills and expertise.

TRAINING: THE SCHOOL SOLUTION, EDUCATION, TRAINING, AND IDEAS

Even when the intelligence community recruits the best, the cadre improves through professional training. In many organizations, unfortunately, training becomes one of the areas first hit when resources run dry. The SIP recognized the importance of training, and made establishing an interagency training program to recapitalize analytic expertise one of the pillars of its foundation. The Strategic Intelligence Plan states a need for an Intelligence Community National Intelligence Academy. Its stated goal, "In addition to increasing professional knowledge and skills, would be to foster interaction—and bonding—among officers across the agencies. The program would also provide a venue for retired IC officials to teach, write, and both document and transmit the history of the IC to future generations."[42] The goal is to have a minimum of ten percent of the current work force billets set aside for career development.[43] Those ten percent would include those providing training and those receiving training. Below are some employment, and student opportunities, for those individuals.

THE SHERMAN KENT SCHOOL

In recent years the CIA improved its education of analysts. The Sherman Kent School for Intelligence Analysis opened in May 2000 as the first comprehensive training program for CIA analysts. The school focuses on among other things past intelligence failures and high-profile mistakes. "We spend a lot of time in this course studying mistakes," said Frans Bax, the school's former dean and CIA veteran.[44]

The Kent School's basic course is a six-month curriculum including ethics, case studies, exercises, and primary analysis. The new course is six times as long as the short course previously provided. "Providing context" to the problem was essential to the namesake of the school, the late Sherman Kent, who first proposed the school in 1953.[45] John Mc Laughlin, Deputy Director for Central Intelligence said the Kent School was "intended to build esprit de corps among new analysts and stress the importance of their mission through the extensive use

of case studies of past intelligence successes and failures.[46] The Kent School has made great strides in its relatively short period of operation.

Dan Wagner, current Dean of the Sherman Kent School of Analysis said that after 18 months of operation, the directors have pared down the basic intelligence analysis course (Career Analyst Program) to five months (from six). The school has graduated seven of these classes designed for first year analysts since its inception, and has added a variety of programs to meet more analysts' needs. One such program is the Intelligence Occupations Program organized by discipline to improve particular political, economic, military and other fields of analysis. These are highly tailored programs varying from several hours to three weeks, some in forums such as brown bags and battlefield staff rides. The goal is to meet the needs of all analysts at all career levels. The school has also added a course in leadership training for those in management or analysts who might be considering positions in management. The current curriculum is focused on first line and middle managers; executive development is available through outside programs.

Another of the school's initiatives is the Kent Center, designed to maximize "in reach" and "outreach." A small number of Kent scholars are chosen from academia, the military, or personnel in policy jobs who have something they can contribute to the theory and practice of analysis. They are available to augment existing programs. The "in reach" portion is the equivalent of a sabbatical program, wherein analysts can study a particular issue or problem from several weeks to a year. Many of these areas are still being fleshed out, but the aim is to bring in more influence from outside the intelligence community to address analytical issues.

While the school was formed within the Directorate of Intelligence of CIA with the mission to educate and train its analysts, it has found that students learn best in a class that includes diversity. Students from DIA, NSA, National Imagery and Mapping Agency, and some military commands have attended, although the numbers have been limited. The school does not charge "tuition" for these students, but billet allocation has been a factor. Wagner discussed the proposal for a CIA University, and seems confident it will happen. He believes this will be good for the Kent School, and compared the Kent School to a college within a university system. The college will still be unique and have its own specialty, but the university system will help improve some of the collaboration and larger administrative issues.

The school just completed an evaluation to determine what impact it has had. Twenty-three analysts and their supervisors were interviewed six months following their graduation to gauge what difference the course made. They were measured against a group of analysts who were new to the agency and had not received the training. Wagner reported that he was very

pleased with the results, and that both analysts and supervisors noted improved competence, confidence and morale in the Kent School graduates. Analysts also sensed their organizations' investment in them as analysts. This, along with their learning the history of CIA and understanding the overall intelligence process gave them greater insights. They seemed to be more committed to what they were doing, or have a better buy in.

The increased focus on terrorism since September 11th drove increased counterterrorism training for all the new analysts. The school has particularly worked to expand and change some of the existing courses. With a higher percentage of analysts serving in the CTC and other transnational centers, more curriculae focusing on those needs must be developed and delivered. The school has shown it is flexible and adaptable, adding a new course once a month resulting in a rapidly changing curriculum.

Wagner noted a "change of attitude that training is career enhancing." He said that the school is small, and would like to stay small, but will continue to reach back into the agency for adjunct faculty to augment the curriculum. The Senior Analytical Service understands that is part of their duty to teach, mentor and build that cadre of new analysts to whom they have a responsibility to pass on their knowledge. He believes this culture change will yield a growing participation of senior analysts in the program over time.[47]

THE JOINT MILITARY INTELLIGENCE COLLEGE

The Defense Intelligence Agency's Joint Military Intelligence College (JMIC) also plays a significant role in the intelligence-training field. The JMIC offers numerous full-time and part-time degree and non-degree programs. One of its greatest strengths is its flexibility and outreach to many members of the intelligence community. JMIC offers a military reserve program, evening and Saturday classes, and a monthly executive format. Additionally, DIA employees can participate in a structured part-time program, and NSA personnel attend a tailored Graduate Center at the National Security Agency to meet their professionals' needs. JMIC awards the only accredited degrees in strategic intelligence granted in the United States, the Master of Science of Strategic Intelligence and the Bachelor of Science in Intelligence. Among the school's many offerings are 24 different "Analytic Methods" courses ranging from basic analysis and production to scientific and technical analysis.[48] The intelligence community benefits from the training JMIC provides to a wide variety of analysts, enlisted, officer, and civilian, from a variety of agencies. Besides the obvious impact of better-trained employees, another benefit the intelligence community receives is the two-year obligation students incur following this school—several more years guaranteed serving in the intelligence field.

ON-THE-JOB TRAINING

Analysts learn from educators, trainers, and other analysts, but also benefit from exposure to customers and intelligence professionals in other areas of expertise. John McLaughlin, Deputy Director of Central Intelligence stated that he feels in the CIA's Directorate of Intelligence, the analysis is most relevant and useful when provided directly to the intelligence consumer, many times by a personal representative of the CIA. The agency has many analysts deployed to policy agencies and military commands. The representatives have proven very useful and popular because they offer "one stop shopping" and ensure the headquarters analysts remain close to customers. The representatives also provide useful feedback to headquarters and can help target specific needs.[49]

Other agencies in the intelligence community could benefit from similar programs sending analysts to the "field," to gain experience working directly for the consumers rather than providing analysis to more analysts. The Office of Naval Intelligence has done this with success, embedding selected military and civilian analysts into field units for short-term and long-term assignments when appropriate. Both analysts and units benefit. One of the more successful programs is the "ship rider" program in which regional analysts augment an aircraft carrier intelligence center while transiting that area of operations. This symbiotic relationship helps the analysts see whom they support, and helps customers know whom they are turning to. This is just an example of one program in which analysts from both sides benefit[50].

Some agencies provide intelligence representatives to outside commands, but too often those representatives are not analysts. Technical experts can provide extremely useful support, but liaison positions should not be filled with technical experts at the expense of an analyst position. Although it costs the same to send an analyst to a location as a technocrat, the experience gained back to the intelligence community is not the same. The technical expert is not likely to gain as much from the exchange as the receiver of the expertise. The analyst going to the field assists not only the field, but contributes to his or her own learning and hopefully passes that knowledge along to other analysts.

The CIA has attempted to forge partnerships within its organization and with other parts of the community. For example, the agency has co-located several analytical and operational units in the Directorate of Operations and undertaken joint operations. The support works two ways, both as analytical support to the operation and as a draw on the clandestine service's insights into overseas situations. Additionally, the CIA established a joint Office of Advanced Analytic Tools in the Directorate of Science and Technology. This office works with analysts to

16

develop automated tools to help sort and store the large quantities of information feeding into the analytical process.[51] This cross-pollenization of analysts, operators, and technologists helps each see all sides of products and helps clarify needs and requirements and develop better possible solutions.

RED TEAM TRAINING

On Sep. 13, 2001, General Richard B. Meyers, Chairman of the Joint Chiefs of Staff told the U.S. Senate: "What will keep me awake at night in this job, is the things we haven't thought about." To address these thoughts, intelligence analysts need experience in "red teaming." A red team assumes the identity of the enemy and tries to outmaneuver the allies, or the blue team. These exercises help expose ideas that haven't previously been anticipated. The exercises help analysts try to empathize with a culture, think about their anger or concerns, and how they might react in particular situations.[52]

Former Director of Central Intelligence R. James Woolsey recommends new research be applied to the very real cyber terrorism threat, and key to that research should be people who "think like terrorists." He went on to say:

> We need a kind of Red Team for some of the things that need to be done. We are really used to thinking about how our infrastructure might deal with natural disasters, but I quoted to them something that Einstein once said, 'God may be sophisticated, but he's not plain mean.' What I think Einstein meant by that...nature is on the other side of the fight. Nobody is there trying to outwit you. But when you are in a war, it is different. There is somebody plain mean on the other side. It's not just trying to protect the Internet against natural disasters, but trying to protect it against a very evil person who is smart and looking for ways to make it fail. It's going to take a whole new way of thinking to fight this new threat.[53]

The U.S. military uses varying versions of Red Team training and it is part of every unit's advanced training. The Army studies foreign military capabilities and includes those tactics and predicted capabilities into the "Red Force" fighting the U.S. Blue force in training scenarios. These realistic training evolutions set at the National Training Center at Fort Irwin, CA, and other training bases even include foreign forces' equipment, uniforms, and tactics to best prepare soldiers for what they may encounter. The U.S. Navy and U.S. Air Force maintain "aggressor" aircraft squadrons to fly against U.S. pilots to effectively force them into solutions against the enemy. The U.S. intelligence community should use these type models to exercise terrorism analysts thinking skills, forcing them to think against the enemy in a practice scenario.

17

As soldiers and pilots learn new and effective tactics and techniques in practice maneuvers, so, too, can the intelligence analyst.

The NRO chartered a unique project named "Proteus," which encouraged out of the box thinking to try and determine solutions to national security problems of tomorrow. In describing the first phase of the project, David Kier, Deputy Director, NRO, stated:

> The question for us, I think, is not how the future will unfold—we cannot predict that with clarity. We must wait until we get there to see how it turns out. The questions are, rather, how we can face the future, react to it, operate in it, and understand it. It is our posture that matters. For that, we must find new approaches to planning that affords us deeper looks at the shifting bedrock and not leave us reacting to aftershocks.

> This document [the report on the first phase of the project] is unique in my experience in Government. It is neither an analysis, nor a plan for the future. Nor is it a guess at how the future will be. Rather, it is an unusually rich and thoughtful collection of insights about the problems of 2020. Specifically, it is about the problems that the U.S. Intelligence Community might face and how we might see the future through something other than the distorted lens of the present.[54]

This effort should be seen as a prototype to encourage analysts to think beyond the daily problems. With this effort, there was no penalty for being wrong. The project encouraged analysts to look at scenarios most had never envisioned and create intelligence solutions to solve the problems of those days. As far-fetched as that might seem, this is the type mental exercise our intelligence analysts can benefit from most. A sports analogy would be, one might never know they can run a 7:00 minute mile if they never try. And it might be uncomfortable, but it might be right. And when that runner really needs to run the 7:00 minute mile, at least they will have practiced it. The intelligence community needs to let analysts "exercise" their analytical capabilities in more forums such as "Proteus" before the big races. Red team training has increased in popularity over the past few years, but again, has suffered due to a lack of resources. Although "red teaming" is practiced today in the intelligence community, it can be greatly expanded and likely yield good results. The intelligence community as a whole could improve its relevancy and pertinence through a more focused and better-resourced red team effort at various levels.

SELF-STUDY

If for whatever reason analysts are too bogged down in the day-to-day operations that they are not able to attend formal training for some time, the intelligence community has done a good job of institutionalizing some of its best resources on intelligence analysis. Any serious

18

career intelligence analyst who has not read Richards Heuer's <u>Psychology of Intelligence</u> <u>Analysis</u> has let themselves down—if only for the fact that so many of their peers have read it. Although self-study is not the preferred education or training method for many, its value should not be underestimated. All analysts should read this book to help decipher the most difficult challenges of analysis—and terrorism analysis completely applies, as it requires thinking about thinking—arguably the hardest.

Heuer's work focuses on how people process information to make judgments on the basis of incomplete information. In the book's foreword, Douglas MacEachin, former Deputy Director of Intelligence emphasizes the following: "Dick Heuer makes clear that the pitfalls the human mental process sets for analysts cannot be eliminated; they are part of us. What can be done is to train people how to look for and recognize these mental obstacles, and how to develop procedures designed to offset them."[55] Another former CIA officer feels the following Heuer passage summarizes his thoughts: "Intelligence analysts should be self-conscious about their reasoning process. They should think about *how* they make judgments and reach conclusions, not just about the judgments and conclusions themselves."[56] In a book including chapters such as "Thinking About Thinking"; "Perception: Why Can't We See What Is There to Be Seen;" and "Analysis of Competing Hypotheses," it is clear that the work is "relatively timeless and still relevant to the never-ending quest for better analysis."[57]

Heuer influenced formal intelligence training as far back as the 1980s and many of his writings are still required readings in intelligence training courses today. The following is Heuer's advice to CIA leaders, managers and analysts, all of which must be learned through experience vice books:

> *Establish an organizational environment* that promotes and rewards the kind of critical thinking he advocates—for example, analysis on difficult issues that considers in depth a series of plausible hypotheses rather than allowing the first credible hypothesis to suffice.
>
> *Expand funding for research* on the role such mental processes play in shaping analytical judgments. An Agency that relies on sharp cognitive performance by its analysts must stay abreast of studies on how the mind works—i.e., on *how* analysts reach judgments.
>
> *Foster development of tools* to assist analysts in assessing information. On tough issues, they need help in improving their mental models and in deriving incisive findings from information they already have; they need such help at least as much as they need more information.[58]

EASY REFERENCE

Another good source the intelligence community maintains for intelligence analytical training is the CIA's Directorate of Intelligence (DI) "Analytic Toolkit." The online toolkit includes Notes on Analytic Tradecraft, detailing some of the skills and methods used by DI analysts. Other chapters include Access and Credibility, Articulation of Assumptions, Facts and Sourcing, and Analytic Tradecraft and Close Policy Support, to name a few. (See Figure 2 for a complete listing.) These notes are available via the CIA homepage and the internal CIA Local Area Network (LAN), and according to the homepage are "a standard reference within CIA for practitioners and teachers of intelligence analysis."[59] The Toolkit is extremely user friendly and can be used as a training guide or a refresher to intelligence analysts in any agency within the intelligence community, as long as they are aware of its existence.

DI Analytic Toolkit

The Analytic Toolkit is excerpted from Notes on Analytic Tradecraft, published between 1995 and 1997, which elaborate on some of the skills and methods used by DI intelligence analysts. These notes become a standard reference within CIA for practitioners and teachers of intelligence analysis.

-Addressing US Interests in DI Assessments
-Access and Credibility
-Articulation of Assumptions
-Outlook
-Facts and Sourcing
-Effective Summary
-Implementation Analysis
-Conclusions
-Effective Use of Unique   Intelligence
-Analytic Tradecraft and Close Policy Support
 -Teamwork, Teams, and Getting the Job Done
 -Analytic Support for Negotiations
-Analytic Support for Sanctions Monitoring

FIGURE 2 – CENTRAL INTELLIGENCE AGENCY'S DIRECTORATE OF INTELLIGENCE "ANALYTICAL TOOL KIT"

EQUIPPING: INFORMATION SHARING, COLLABORATION AND ANALYTICAL TOOLS

Using the U.S. Code Title 10 responsibilities model, "equipping" for intelligence analysis is somewhat of a catchall. Equipping for these purposes means providing analysts the maximum information possible and means to make the best use of those volumes of information. "Equipment" also encompasses, for these purposes, analytical tools, and research into One of the six major pillars of the SIP was to build a framework and analytical tools to help analysts "manage information, reveal connections, facilitate analytic insights, streamline search, an automatically populate databases."[60] The SIP strongly encouraged and endorsed collaborative efforts among intelligence community players to ensure intelligence was shared real time by the most efficient means possible. A goal was to ensure databases' accessibility and interoperability to enhance collaboration and leverage expertise across the intelligence community. It makes sense to create a collaborative working environment to link analysts and connect them to collectors, customer, allies, and outside experts. Although these were the goals of the plan, they have not so far been easily met.

IMPROVING INTELLIGENCE SHARING

Good intelligence is useless if it cannot be shared, analyzed, or fused with other sources, and the intelligence community fails to share intelligence information effectively. Intentions are good, and progress is made, but the reality is that all elements of the community are not where they need to be yet. According to the Senate Select Committee on Intelligence (SSCI):

> Effective sharing of information among the various components of the government-wide effort to combat terrorism is also essential, and is presently hindered by cultural, bureaucratic, resource, training, and in some cases, legal obstacles. The Bremer Commission [The National Commission on Terrorism] noted that {t}he law enforcement community is neither fully exploiting the growing amount of information it collects during the course of terrorism investigations not distributing that information effectively to analysis and policymakers."[61]

The House Permanent Select Committee on Intelligence (HPSCI) has also cited the intelligence community for failing to share information among community members.[62]

The Bremer Commission discusses the traditional reluctance of the law enforcement agencies to share information outside their areas so as not to jeopardize prosecutions. The Commission recognizes that the FBI shares information about specific terrorist threats with other agencies, but feels there is far more information collected in field offices that could provide long-term value to the intelligence community if shared. They recommend the FBI establish and equip a dedicated staff of reports officers, similar to the CIA's, to review, prioritize and distill

information for timely dissemination to other agencies within the intelligence community. The Commission felt the intelligence-sharing issue important enough to warrant Attorney General attention, with the following recommendation: "The Attorney General should clarify what information can be shared and direct maximum dissemination of terrorist-related information to policymakers and intelligence analysts consistent with the law."[63]

The new anti-terrorism bill, known as the U.S.A. Patriot Act, passed allowing the FBI to gather domestic intelligence and the Treasury Department to build a financial intelligence-gathering system—both of whose data can be accessed by the CIA. The new bill provides the intelligence community access to information and intelligence gathering opportunities previously restricted to only the law enforcement community. The new law permits the FBI to give grand jury information to the CIA without a court order, as was previously required. The only restriction is that the information must concern foreign intelligence or international terrorism. Attorney General John D. Ashcroft called the anti-terrorism bill "a package of tools urgently needed to combat terrorism," and Senator Bob Graham, Chairman of the SSCI, called it "empowerment of the Director of Central Intelligence."[64]

The DCI has taken broad steps to improve intelligence sharing since September 11th. In a memo to his staff, DCI George Tenet directed employees to "cut out bureaucratic impediments to success," because intelligence handling "must be absolutely seamless in waging this war, and we must lead."[65] His memo also said, "all the rules have changed...[there] must be absolute full sharing of ideas and capabilities...law enforcement, military and other civilian agencies and other intelligence community colleagues."[66] Additionally, cross-pollination between agencies is being enforced at the highest levels. Since September 11th, Joan Dempsey, Deputy DCI for Community Management has chaired daily intelligence community conferences with representatives from the DIA, NSA, and the National Imagery and Mapping Agency. And to ensure the FBI and CIA are fully exchanging information, CTC officials meet twice daily with FBI Director Robert S. Mueller and his deputies.[67] The renewed efforts by the agencies to seriously share information are clearly demonstrated from the top. It is logical to assume that analysis will improve once analysts have access to all the information, rather than selected parts.

SCIENTISTS, RESEARCH, AND TECHNOLOGY

The scientific and research communities are taking an active role in looking for ways to prevent future terrorist events. September 26, 2001, the directors of the National Academy of Science, the National Academy of Engineering, and the Institute of Medicine hosted a summit

with some of the country's top scientific minds to look for ways their work could help fight terrorism threats. The directors began the project on their own and will be forwarding some of their ideas and recommendations to the Office of Homeland Security. They hope to both look at short-term vulnerabilities and develop a group of scholars who are willing to think out of the box at ways to predict and solve the problems. One of the first projects they decided to tackle was to make a list of the risks, and then develop "a clear scientific approach to assess the probability and consequences of various terror scenarios."[68] This scientific application to scenarios could prove very useful to intelligence analysts as another tool in the kit.

One solution to a previously identified problem in the analytical corps may have solutions in the technology field: virtual language translation. The SSCI explained the problem as follows:

> The Committee is concerned that intelligence in general, and intelligence related to terrorism in particular, is increasingly reliant on the ability of the Intelligence Community to quickly, accurately and efficiently translate information in a large number of languages. Many of the languages for which translation capabilities are limited within the United States Government are the languages of critical importance in our counter terrorism efforts. The Committee believes that applying cutting-edge, internet-like technology to create a 'National Virtual Translation Center' can alleviate this problem.... Foreign intelligence could be collected technically in one location, translated in a second location, and provided to an Intelligence Community analyst in a third location.[69]

Regardless of whether this virtual translation is done at a center or within existing intelligence community structures, this type of technology needs to move to the forefront of research and development initiatives to at least help address the demanding language requirements of the War on Terrorism. The step forward in virtual translation, though, needs to be a cautious one. There are numerous examples, both internal and external to the intelligence community, where bad translations lead to even worse analysis. And with the stakes so high, the technological translation tool cannot quickly or easily replace the human translation machine.

RESEARCH AND DEVELOPMENT INVESTMENTS IN ANALYTICAL TOOLS

The CIA has tapped private-sector development companies such as In-Q-Tel in Silicon Valley to develop information technology (IT) the agency can use. "We're looking at real Mission Impossible stuff," according to Gilman G. Louie, president of In-Q-Tel.[70] In-Q-Tel was founded in 1999 as an independent, private, nonprofit company chartered by the CIA to identify and deliver information technology solutions to support critical intelligence missions. The idea

was to combine the entrepreneurs of the private-sector knowledge management community with talents of the CIA workforce to solve agency information technology problems. Some of the In-Q-Tel work included technologies such as Internet search and discovery, information security, enterprise knowledge management, and geospatial applications. They have also built a large network of companies that have ideas to offer the agency.[71] Terrorism intelligence analysts will hopefully be partnered with these technologists to apply their combined expertise to the difficult analytical framework of the terrorism problem.

Applied Systems Intelligence (ASI) in Roswell, GA, provides another example of technology applied to the analytical issue in the form of intelligence analysis software. KARNAC (Knowledge Aided Retrieval in Activity Context), designed by ASI, will be able to sift through and analyze existing public and private databases finding suspicious patterns of activity. Its creators say the software will help analysts predict terrorist attacks. In its current configuration, information would come from databases such as gun registrations, driver's licenses, criminal records, the Internet, newspapers and county records. The computer assists by sifting large quantities of data and connecting pieces of information that may not have much impact on their own by together could be important. Although not foolproof, the data KARNAC claims to use in tests is the same information the FBI has identified as significant information after other terrorist events.[72] Technologically driven tools such as this concept could help analysts by presenting possible scenarios, which could then be processed by human analytical thought.

And even if the proper intelligence is collected, there is no guarantee that the right information will get to the right analyst in time. The information explosion placed a true strain on the "Exploitation" phase of the Tasking, Processing, Exploitation, and Dissemination (TPED) problem. There are some estimates that only 10 percent of collected data is actually analyzed. Consider the following figures as a basis: in 2000, Americans logged 2.58 billion minutes on cell phones, 75 percent more than in 1999; America Online handles 225 million e-mails and 1.1 billion instant messages a day. This massive increase in data is driving some of the research into "fuzzy logic"-- computing looking for patterns or words suggesting a terrorist action. This could assist, but it will still be extremely difficult to keep up with the influx of data that information technology has brought. Former U.S. Representative Lee Hamilton, who once chaired the HPSCI stated: " The key in intelligence is always getting the right information to the right person at the right time. [Otherwise] you can have a warehouse of information, and it doesn't do you any good."[73] The information explosion by itself demonstrates the need for more analysts, better training, and better tools to cull the right information.

24

CONCLUSION

> "Above all, we must never lose sight of the core mission – to warn and protect the people of the United States in a world that still holds enormous potential for surprise and danger."[74]
>
> —John McLaughlin, Deputy DCI

Terrorism analysts are not order of battle analysts – they are charged with thinking and predicting vice counting. To be successful, the intelligence community must have the right people, with the right training and the right tools to accomplish this mission. The Bremer Commission cited good intelligence as the best weapon against international terrorism and said that although obtaining information about plans was extremely difficult, that no other single policy effort was more important in preventing attacks.[75] In the words of U.S. academic George Friedman:

> Analysis is not sexy work. No movies will be made about it. But it is the most important work to be done, and not enough money or attention is paid to it. If reforms are going to be made, we would urgently hope that they would be made in elevating the standing of analysis in the intelligence community.[76]

WORD COUNT = 9672

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